

CLAIMS

What is claimed is:

1. An isolated polynucleotide that encodes an NPR1 polypeptide having a sequence identity of at least 80% based on the Clustal method of alignment when compared to a polypeptide selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.
- 5 2. The polynucleotide of Claim 1 wherein the sequence identity is at least 85%.
3. The polynucleotide of Claim 1 wherein the sequence identity is at least 90%.
4. The polynucleotide of Claim 1 wherein the sequence identity is at least 95%.
5. The polynucleotide of Claim 1 wherein the polynucleotide encodes a polypeptide 10 selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.
6. The polynucleotide of Claim 1 wherein the polynucleotide comprises a nucleotide sequence selected from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, and 15.
7. The polynucleotide of Claim 1 wherein the polypeptide is an NPR1.
- 15 8. An isolated complement of the polynucleotide of Claim 1, wherein
  - (a) the complement and the polynucleotide consist of the same number of nucleotides, and
  - (b) the nucleotide sequences of the complement and the polynucleotide have 100% complementarity.
- 20 9. An isolated nucleic acid molecule that (1) comprises at least 100 nucleotides and (2) remains hybridized with the isolated polynucleotide of Claim 1 under a wash condition of 0.1X SSC, 0.1% SDS, and 65°C.
10. A cell comprising the polynucleotide of Claim 1.
11. The cell of Claim 10, wherein the cell is selected from the group consisting of a yeast cell, a bacterial cell and a plant cell.
- 25 12. A virus comprising the polynucleotide of Claim 1.
13. A transgenic plant comprising the polynucleotide of Claim 1.
14. A method for transforming a cell, comprising introducing into a cell the polynucleotide of Claim 1.
- 30 15. A method for producing a transgenic plant comprising
  - (a) transforming a plant cell with the polynucleotide of Claim 1, and
  - (b) regenerating a plant from the transformed plant cell.
16. A method for producing a polynucleotide fragment comprising
  - (a) selecting a nucleotide sequence comprised by the polynucleotide of
- 35 35. Claim 1, and
  - (b) synthesizing a polynucleotide fragment containing the nucleotide sequence.

17. The method of Claim 16, wherein the fragment is produced *in vivo*.

18. An isolated NPR1 polypeptide that has a sequence identity of at least 80% based on the Clustal method compared to an amino acid sequence selected from the group consisting of SEQ ID NOS:2, 4, 6, 8, 10, 12, 14, and 16.

5        19. The isolated polypeptide of Claim 18 wherein the sequence identity is at least 85%.

9        20. The isolated polypeptide of Claim 18 wherein the sequence identity is at least 90%.

10      21. The isolated polypeptide of Claim 18 wherein the sequence identity is at least 95%.

14      22. The polypeptide of Claim 18 wherein the polypeptide has a sequence selected from the group consisting of SEQ ID NOS:2, 4, 6, 8, 10, 12, 14, and 16.

15      23. The polypeptide of Claim 18, wherein the polypeptide is aNPR1.

16      24. A chimeric gene comprising the polynucleotide of Claim 1 operably linked to at least one regulatory sequence.

17      25. A method for altering the level of pathogen resistance in a plant, the method comprising the steps of:

- (a) transforming a plant cell with a chimeric gene containing the polypeptide of Claim 1;
- 20        (b) culturing the transformed plant cell under conditions suitable for the expression of the chimeric gene;
- 21        (c) maintaining the plant cell under conditions that are suitable for its development into a plant; and
- 22        (d) comparing the level of pathogen resistance of the plant cell containing the polynucleotide of Claim 1 and a plant cell not containing the polynucleotide of Claim 1.

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